

Appln. No. 09/720,096

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

Claim 1 (Presently amended): A method of fermenting milk by means of a purine or thymidine auxotrophic bacterial culture which is capable of being metabolically active in said milk, the method comprising

(i) isolating a purine or thymidine auxotrophic bacterial strain ~~which is not capable of DNA replication, RNA transcription or protein synthesis in said milk but is metabolically active and thereby enabling acidification of said milk,~~

(ii) propagating the isolated bacterial strain in a medium wherein the strain is capable of replicating to obtain a bacterial ~~starter~~ culture of said strain,

(iii) adding the thus obtained bacterial ~~starter~~ culture to the milk and keeping the milk under conditions where the bacterial ~~starter~~ culture is able to acidify the milk metabolically active, but is not capable of replication,

whereby, if the milk is contaminated with a bacteriophage, the milk is acidified to a pH lower than milk acidified using a wild type parent strain of said the metabolic activity of the purine or thymidine auxotrophic bacterial strain. ~~culture is substantially unaffected by the bacteriophage.~~

Claims 2-8 cancelled

Claim 9 (Previously presented): A method according to claim 1 wherein the bacterial culture is selected from the group consisting of *Lactococcus* spp., *Lactobacillus* spp., *Leuconostoc* spp., *Pediococcus* spp., *Streptococcus* spp., *Propionibacterium* spp., *Bifidobacterium* spp., *Staphylococcus* spp., *Micrococcus* spp., *Bacillus* spp., *Enterobacteriaceae* spp. *Actinomyces* spp., *Corynebacterium* spp. and *Brevibacterium* spp.

Claim 10 (Previously presented): A method according to claim 9 wherein the bacterial culture is a culture of *Lactococcus lactis*.

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Claim 11 (Presently amended): A method according to claim 1 wherein the bacterial culture added to the milk includes the bacterial strain at a concentration in the range of 10^5 to 10^9 CFU/ml or g of the milk material.

Claim 12. (Previously presented): A method according to claim 1 where the bacterial culture comprises a genetically modified strain which, relative to its parent strain is enhanced in at least one metabolic pathway.

Claim 13. (Previously presented): A method according to claim 12 wherein the genetically modified strain has, relative to its parent strain, an enhanced metabolic activity selected from the group consisting of enhanced glycolytic flux and enhanced flux through the pentose phosphate pathway.

Claim 14. (Previously presented): A method according to claim 13 wherein the genetically modified strain has, relative to its parent strain, an enhanced ATPase activity.

Claim 15 and 16 (Cancelled).

Claim 17. (Previously presented): A method according to claim 1 wherein the bacterial culture comprises a bacterial strain which is capable of increasing the size of the cells without mitosis.

Claims 18-23 (Cancelled).

Claim 24. (Presently amended): A method of manufacturing a milk product comprising adding a ~~starter~~ culture composition comprising a purine or thymidine auxotrophic lactic acid bacterium to a milk and keeping the thus inoculated milk under conditions where the ~~modified~~ lactic acid bacterium is metabolically active able to acidify the milk, but is not capable of replication, said purine or thymidine auxotrophic lactic acid bacterium is capable of being metabolically active in said milk and thereby enabling acidification of said milk, subject to the limitation, that the lactic acid bacterium does not include a strain selected from the group consisting of strain DN101, DN102, DN103, DN104 and DN105, whereby, if the milk is contaminated with a bacteriophage, the milk is acidified to a pH lower than milk acidified using a wild type parent strain of said ~~the metabolic activity of the purine or thymidine auxotrophic lactic acid bacterium is substantially unaffected by the bacteriophage.~~

Claims 25-27 (Cancelled).

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Claim 28 (Presently amended): A method according to ~~claim 4~~ claim 1 wherein the ~~mutant~~ bacterial strain is *Lactococcus lactis* strain DN105 deposited under the accession number DSM 12289.

Claim 29 (Presently amended): A method according to ~~claim 5~~ 1 wherein the ~~mutant~~ bacterial strain is *Lactococcus lactis* strain MBP71 deposited under the accession number DSN12891.

Claim 30 (Presently amended): A method for keeping the capability of a bacterial strain to ferment milk even in the presence of a bacteriophage, the method comprising:

(i) isolating a purine or thymidine auxotrophic bacterial strain ~~which maintains its metabolic activity in the absence of an auxotrophic component in the milk and thereby enabling acidification of said milk; and~~

(ii) adding the purine or thymidine auxotrophic bacterial strain to said milk, and keeping the milk under conditions where the purine or thymidine auxotrophic bacterial strain is able to ferment the milk, but is not capable of replication;

whereby, if the milk is contaminated with a bacteriophage, the milk is acidified to a pH lower than milk acidified using a wild type parent strain of said purine or thymidine auxotrophic bacterial strain.

Claim 31 (Presently amended): A method of preparing a dairy flavouring and/or a product for cheese flavouring comprising, adding a purine or thymidine auxotrophic bacterial ~~starter-culture~~ to a dairy flavouring and/or a product for cheese flavouring starting material, said bacterial ~~starter-culture~~ being capable of being metabolically active in said dairy flavouring and/or product for cheese flavouring starting material, the bacterial ~~starter-culture~~ made by a method comprising:

(i) isolating a purine or thymidine auxotrophic bacterial strain ~~which is not capable of DNA replication, RNA transcription or protein synthesis in said dairy flavouring and/or product for cheese flavouring starting material but is metabolically active and thereby enabling acidification of said dairy flavouring and/or product for cheese flavouring starting material,~~

(ii) propagating the isolated purine or thymidine auxotrophic bacterial strain in a medium wherein the isolated bacterial strain is capable of replicating to obtain the bacterial ~~starter-culture~~ of said isolated bacterial strain, and

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(iii) adding the purine or thymidine auxotrophic bacterial culture to the dairy flavouring and/or product for cheese flavouring starting material and maintaining the thus-obtained inoculated dairy flavouring and/or product for cheese flavouring starting material under such conditions that the bacterial strain of the bacterial ~~starter~~ culture is metabolically active, but is not capable of replication,

whereby, if the dairy flavouring and/or product for cheese flavouring starting material is contaminated with a bacteriophage, the metabolic activity of the purine or thymidine auxotrophic bacterial ~~starter~~ culture is less affected than the metabolic activity of the wild type parent strain of the purine or thymidine auxotrophic bacterial strain.

Claim 32 (Previously presented): A method according to claim 9 wherein the bacterial culture is *E. coli*.